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ABSTRACT OF THE DISCLOSURE

The invention relates to a process for the selective recovery of olefins from a mixture of gases by: a) bringing a gaseous mixture having olefins and hydrogen into contact with silver nitrate solution whereby the olefins are absorbed into the silver nitrate solution as a complex; b) separating the solution having complexed olefins from the non-absorbed gases; c) depressurising and heating the olefin complex solution from (b) so as to release the olefins from the complex and regenerate the silver nitrate solution; d) passing the regenerated silver nitrate solution through a bed containing silver oxide so as to maintain the pH value of the silver nitrate at between 3 and 6; and e) recycling the silver nitrate solution regenerated in (d) to step (a).